Appendix C

BMP Manual

CITY OF NATIONAL CITY

STORM WATER BEST MANAGEMENT PRACTICES MANUAL

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1.0 INTRODUCTION

The City of National City has established best management practice (BMP) requirements for different Jurisdictional Urban Runoff Management Program (JURMP) components. BMPS are practices, activities, or structures designed to prevent or reduce the discharge of pollutants in to the City's storm water conveyance system. The City's storm water conveyance system consists of public and private drainage facilities designed to collect and convey water from storm events. This includes, but is not limited to, roads, streets, storm drains, gutters, inlets, catch basins, pipes, and natural waterways.

Included in this BMP Manual (Manual) are BMPs related to construction sites, industrial and commercial facilities, municipal facilities, and residents. For each of the aforementioned components, there is a discussion of BMP requirements applicable to all dischargers and BMPs for specific activities associated with the corresponding component. Dischargers, as discussed throughout this Manual, refers to any person or entity engaged in activities or operations or owning facilities, which will or may result in pollutants entering storm water, the storm water conveyance system, or receiving waters; and the owners of property on which such activities, operations or facilities are located, which includes, but is not limited to, construction site project proponents and owners, industrial and commercial owners and operators, municipal facility operators, and landlords, property management agencies, and residents residing within the City.

Note that the discussion of BMP requirements applicable to all dischargers is discussed at the beginning of each section, and is largely the same for each section. Though this may seem redundant, the Manual is structured in this way so that each section contains complete BMP requirements when separated from other sections of the Manual. This facilitates using sections of this Manual as educational outreach material.

2.0 CONSTRUCTION

2.1 BMP REQUIREMENTS FOR ALL DISCHARGERS

2.1.1 NON-STORM WATER DISCHARGES

Non-storm water discharges refer to water flows that are not associated with storm events (i.e. the product of precipitation). The following categories of non-storm water discharges are exempt from discharge prohibitions established by the City's ordinance, but BMPs must maintained to keep prevent these discharges from being a source of or transporting pollutants to the City's storm water conveyance system. Such discharges are listed below:

- Discharges from potable water sources other than water main breaks;
- Diverted stream flows (provided required permits are obtained);
- Flows from riparian habitats and wetlands;
- Foundation drains (not including active groundwater dewatering systems);
- Individual residential washing of vehicles;
- Irrigation water including recycled water used for irrigation;
- Landscape irrigation;
- Lawn watering;
- Rising groundwater;
- Swimming pool discharges (if dechlorinated to less than one PPM chlorine);
- Uncontaminated groundwater infiltration to storm drains;
- Uncontaminated pumped groundwater;
- Water from crawl space pumps; and
- Water from footing drains (not including active groundwater dewatering systems).
- Air conditioning condensate
- Flows from emergency fire fighting activities
- Springs
- Water line flushing

2.1.2 BMP REQUIREMENTS APPLICABLE TO ALL DISCHARGERS

Good Housekeeping BMPs

Good housekeeping consists of practices implemented to prevent pollutants from being carried in either non-storm water dischargers or with storm water during a storm event and include the practices below. These practices should be implemented by all dischargers, when applicable:

- Report prohibited non-storm water discharges to the City's storm water hotline (619) 336-4389.

    - Prohibited non-storm water discharges include industrial and commercial businesses hosing down their sites or washing vehicles or equipment where water reaches the City's storm water conveyance system, or anyone dumping solid or liquid waste directly into or where it may reach the City's storm water conveyance system.

- Regularly clean and maintain outdoor areas
    - Eliminate the accumulation of pollutants (dirt, surplus materials, spilled or dropped substances, litter, and debris) that collect in areas that can be carried in runoff to the storm water conveyance system.
    - Keep dumpster, trashcan, and recycling bin lids closed to prevent the wind from carrying trash out of the receptacles and to prevent wind, rain, and scavengers from transporting pollutants to the storm water conveyance system.

- Choose dry cleaning methods
    - Eliminate hosing down the site unless all wash water is contained and disposed of to a pervious area, like a lawn, or the sanitary sewer system. Note that some kinds of wash water (i.e. containing significant amounts of pollutants) may not be allowed to be disposed of to a pervious area. Additionally, sewer permits may be necessary for disposing of significant amounts of wash water to the sewer system.
    - Sweeping of paved areas is a dry cleaning method that helps prevent trash, debris, and particulate matter such as dirt from accumulating on paved surfaces and being carried to the storm water conveyance system during a rain event.

- Reduce the use of toxic materials
    - Substitute non-toxic or less-toxic cleaning materials and solvents, use non-caustic and phosphate-free detergents, water-based degreasers, non-chlorinated solvents, when possible.

- Store materials in a manner where they do not contact storm water
    - Move into a building or provide a cover, berm, or similar structure to prevent storm water from contacting materials stored outdoors.

Erosion Control

- Remove or secure any significant accumulations of eroded soils from slopes, or other exposed areas. Such areas may be secured through the use of vegetation, geotextiles, erosion control blankets, etc.

Illegal Connections and Discharges

- Illegal connections to the storm water conveyance system, including, but not limited to sinks and toilets plumbed to the storm water conveyance system, and other systems that convey prohibited discharges to the storm water conveyance system must be eliminated (even if the connection was established pursuant to a valid permit and was legal at the time it was constructed).

- Illegal discharge practices must be eliminated. If a discharge is not include on the list of allowed discharges discussed in section 2.1.1, and is not water resulting from a storm event, it is most likely an illegal discharge.

2.2 BMP REQUIREMENTS FOR CONSTRUCTION SITES

The City has developed a set of minimum BMPs that must be implemented at all construction sites. Every construction site within the City's jurisdiction is required to select, install, and maintain general site management, soil stabilization and erosion prevention, and sediment containment BMPs to reduce, retain, and manage pollutant discharges to the MEP. All implemented BMPs must be adequately maintained until they are removed. Table 2-1 outlines the minimum construction BMPs required by the City along with the corresponding current fact sheets obtained from the Caltrans Storm Water Quality Handbooks Construction Site BMP Manual (2003), where applicable. The fact sheets can be found at the Caltrans website at the following web address: http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm. BMPs without relevant Caltrans fact sheets are discussed following the table.

Table 2-1
Minimum Required BMPs for Construction Sites

BMP Type	Minimum Required BMP(s)	Caltrans Fact sheet
General Site Management		
Project Planning	Preserve natural hydrologic features where feasible	**-**
	Preserve riparian buffers and corridors where feasible	**-**
	Minimize areas that are cleared and graded to only the portion of the site that is necessary for construction	**-**
	Minimize exposure time of disturbed soil areas	**SS-1**
	Minimize grading during the wet season and correlate grading with seasonal dry weather periods to the extent feasible	**SS-1**
	Temporarily stabilize and reseed disturbed soil areas as rapidly as feasible	**SS-1**
	Educate construction site employees and subcontractors on minimum BMP requirements	**-**
Pollution Prevention	Prevent the contamination of storm water from vehicles and equipment through proper management of the following types of activities: - Cleaning - Fueling - Maintenance	 **NS-8** **NS-9** **NS-10**

BMP Type	Minimum Required BMP(s)	Caltrans Fact sheet
Pollution Prevention	Prevent the contamination of storm water from construction materials through proper management of the following types of activities:	
	- Material Delivery and Storage	**WM-1**
	- Material Use	**WM-2**
	- Stockpile Management[1]	**WM-3**
	- Spill Prevention and Control	**WM-4**
	Prevent the contamination of storm water by wastes through proper management of the following types of wastes:	
	- Solid Waste	**WM-5**
	- Hazardous Waste	**WM-6**
	- Contaminated Soil	**WM-7**
	- Concrete	**WM-8**
	- Sanitary Waste	**WM-9**
	- Liquid	**WM-10**
	Prevent the contamination of storm water through proper management of the follow activities:	
	- Water Conservation Practices	**NS-1**
	- Dewatering Operations	**NS-2**
	- Paving and Grinding	**NS-3**
	- Potable Water/Irrigation and Flushing	**NS-7**
Erosion Prevention and Sediment Containment		
Soil Stabilization and Erosion Prevention	Preserve existing vegetation where feasible	**SS-2**
	Prevent erosion and sediment runoff from exposed graded areas through physical stabilization and/or vegetation stabilization[2] by implementing one or more of the following BMPs:	
	- Hydraulic Mulch	**SS-3**
	- Hydroseeding	**SS-4**
	- Soil Binders	**SS-5**
	- Straw Mulch	**SS-6**
	- Geotextiles, Plastic Covers, and Erosion Control Blankets/Mats	**SS-7**
	- Wood Mulch	**SS-8**
	- Earth Dikes/Drainage Swales	**SS-**
	Reduce the velocity of storm water by using one or more of the following:	
	- Outlet Protection/Velocity Dissipation	**SS-10**
	- Slope Drains	**SS-11**
	Establish permanent re-vegetation or landscaping as early as feasible	**SS-1**

BMP Type	Minimum Required BMP(s)	Caltrans Fact sheet
Sediment Containment	Protect the Perimeter of the site or exposed area from sediment discharge using one or more of the following:	
	- Silt Fence	**SC-1**
	- Gravel Bag Berm	**SC-6**
	- Fiber Rolls	**SC-5**
	Capture sediments in channeled storm water by using one or more of the following:	
	- De-silting Basin[3]	**SC-2**
	- Storm Drain Inlet Protection	**SC-10**
	- Sediment Trap	**SC-3**
	- Gravel Bag Barrier	**SC-8**
	Prevent sediment from being tracked off-site by using one or more of the following:	
	- Stabilized Construction Entrance	**TC-1**
	- Construction Road Stabilization	**TC-2**
	- Entrance/Exit Tire Wash	**TC-3**
	- Street Sweeping	**SC-7**

1. Stockpiles should be fully covered when materials are not being added or removed.
2. Vegetation stabilization BMPs must be installed, irrigated, and established (uniform vegetative coverage with 70% coverage established) prior to October 1st. In the event stabilizing vegetation has not been established by October 1st, other forms of physical stabilization must be employed to prevent erosion until the stabilizing vegetation is established.
3. De-silting basins must be designed in accordance with industry standards such as Caltrans. If the project is one acre or greater the de-silting basin must be designed in accordance with the current State General Construction Permit.

Minimization of areas cleared and graded for construction and preservation of natural hydrologic features and riparian buffers and corridors are concepts that are typically addressed during the development planning process. It is the responsibly of project proponents to propose effective means of protecting planned preservation areas during construction. The Caltrans fact sheet for Preservation of Existing Vegetation (SS-2) provides some useful information that can be applied to all proposed preservation areas.

Slope stabilization is required on all inactive slopes during the rainy season and during rain events in the dry season. Slope stabilization is also required on all active slopes during rain events regardless of the season.

In addition to the construction BMPs included in the above table, the City also requires construction sites to recycle construction wastes. Chapter 14.27 of the City's Municipal Code requires all construction projects greater than 2,5000 square feet, as well as demolition and roofing projects, to divert 50 percent of construction wastes during the time that no mixed-use recycling facility exists in the City, and pursuant to the construction of such a facility, 75 percent of construction wastes must be diverted. The City developed this ordinance in order to help mitigate the environmental hazards, including potential hazards to the City's water bodies, associated with the large amount of waste produced at construction sites.

2.2.1 SITE MANAGEMENT REQUIREMENTS

To ensure that all approved construction BMPs are properly implemented and maintained at construction sites, the City has established specific site management requirements, which include the following:

- A qualified person who is trained and competent in the use of BMPs shall be on site daily, although not necessarily full time, to evaluate the conditions of the site with respect to storm water pollution prevention. This qualified contact person shall represent the contractor/owner on storm water issues.
- A qualified person shall implement the conditions of all approved plans, contract documents, and local ordinances with respect to erosion and sediment control and other waste management regulations.
- A qualified person is responsible for monitoring the weather and implementation of any emergency plans as needed. The weather shall be monitored on a five-day forecast plan and a full BMP protection plan shall be activated when there is a 40% chance of rain reported in the local media
- A qualified person is responsible for overseeing any site grading and operations and evaluating the effectiveness of the BMPs. This person shall modify the BMPs as necessary to keep the dynamics of the site in compliance. The person or other qualified persons are responsible for checking the BMPs routinely for maintenance and documenting the BMPs being implemented.

2.2.1.1 SEASONAL REQUIREMENTS

Construction sites are required to implement all minimum construction BMPs as necessary to prevent pollution discharges to the MEP regardless of the season. More details on the implementation of BMPs by season are listed below.

Dry Season (May 1st through September 30th)

- All exposed disturbed areas must have erosion prevention controls properly installed including building pads, unfinished roads, and slopes. (Slopes greater than 33.3% or 3:1 vertical vs. horizontal may use properly designed and installed de-silting basins at all discharge points in lieu of this requirement)
- Adequate perimeter protection BMPs must be installed and maintained.
- Adequate sediment containment BMPs must be installed and maintained.
- Adequate BMPs designed to control off-site sediment tracking must be installed and maintained.
- At a minimum, 125% of the materials needed to install standby BMPs necessary to completely protect exposed portions of the site from erosion and to prevent sediment discharges must be stored on the site. Areas that have already been protected from erosion using physical stabilization or vegetation stabilization BMPs are not considered to be "exposed" for purposes of this requirement.
- The owner/contractor must have an approved "weather triggered" action plan and have the ability to deploy standby BMPs as needed to completely protect the

exposed portions of the site within 24 hours of prediction of a storm event (a forecasted 40% chance of rain).

- Deployment of physical or vegetation erosion control BMPs must commence as soon as grading and/or excavation is completed for any portion of the site. The project proponent may not continue to rely on the ability to deploy standby BMP materials to prevent erosion of graded areas that have been completed.
- The amount of cleared or graded areas left exposed at any given time is limited to 17 acres or to the alternate maximum area approved by the City in writing. Areas that have already been protected from erosion using physical stabilization or vegetation stabilization BMPs are not considered to be "exposed" for purposes of this requirement.
- A washout area shall be designated and maintained for materials such as concrete, stucco, paint, caulking, sealants, drywall plaster, etc.
- Properly protected, designated storage areas are required for materials and wastes.
- All stockpiles of materials and wastes should be covered when materials are not being actively added or removed.
- Remnant trash and debris shall be removed and/or properly stored/disposed of daily.
- Storage, service, cleaning, and maintenance areas for vehicles and equipment shall be identified and protected accordingly.
- Materials for spill control/containment must be stockpiled onsite.
- Non-storm water discharges must be eliminated or controlled to the MEP.

Wet Season (October 1st through April 30th)

All dry season requirements are required in addition to the following:

- Erosion control BMPs must be upgraded if necessary to provide sufficient protection for storms likely to occur during the rainy season.
- Perimeter protection and sediment containment BMPs must be upgraded if necessary to provide sufficient protection for storms likely to occur during the rainy season.
- Adequate soil stabilization and erosion prevention BMPs must be installed and established for all completed slopes prior to October 1 and maintained throughout the wet season. If a selected BMP fails, it must be repaired, improved, or replaced with an acceptable alternate as soon as it is safe to do so.
- All vegetation erosion prevention BMPs must be established prior to the rainy season to be considered as a BMP.
- A disturbed area that is not completed but that is not being actively graded must be fully protected from erosion if left for seven or more calendar days. The ability to deploy standby BMP materials is not sufficient for these areas.

2.2.2 Additional Controls for Construction Sites

The Municipal Permit requires implementation of additional controls for construction sites tributary to 303(d) listed water body segments impaired for sediment or within, adjacent to, or discharging directly to coastal lagoons or other receiving waters within ESAs. Additional requirements for such sites will be determined by the City as needed on a site-by-site basis. Additional controls may include required de-silting basins, increased inspection frequency, and/or stronger penalties for non-compliance. Currently, there are no water bodies 303(d) listed for sediment in or downstream of the City, and there are no ESAs in the City.

2.2.3 Maximum Disturbed Area for Erosion Controls

The City requires that temporary or permanent erosion controls be implemented before a construction site has disturbed a total of 17 acres. This 17 acre maximum is comparable to the current Caltrans soil disturbance limitation of 750,000 square feet. If the site is in compliance with applicable storm water regulations and has adequate control practices implemented to prevent storm water pollution, the City has the option to give the site written authorization to disturb beyond the 17 acre maximum. The City will require as necessary additional controls for construction sites allowed to disturb more than 17 acres, which could include additional BMPs, increased inspection frequency, and/or stronger penalties for non-compliance.

2.2.4 Advanced Treatment Methods

For the majority of the construction sites within the City's jurisdiction, the minimum required BMPs, if correctly installed and maintained, should adequately control sediment discharges from the site. However, if it is determined that a site possesses characteristics that could result in standard construction BMPs being ineffective in the treatment of sediment, thus resulting in an exceptional TTWQ, advanced treatment will be required. A site is considered to be an exceptional TTWQ if it meets ALL of the following criteria:

- Is located within, adjacent to, or a portion of the site is within 200 feet of waters listed on the CWA Section 303(d) list of Water Quality Limited Segments as impaired for sedimentation, and turbidity;
- Disturbance is greater than five acres, including all phases of the development;
- Disturbed slopes are steeper than 4:1 (horizontal: vertical) and higher than 10 feet that drain toward the 303(d) listed receiving water;
- Contains a predominance of soils with USDA-NRCS Erosion factors k_f greater than or equal to 0.4.

Alternatively, applicants may perform a Revised Universal Soil Loss Equation (RUSLE) or Modified Universal Soil Loss Equation (MUSLE) analysis to prove to the City Engineer's satisfaction that advanced treatment is not required.

Additionally, the City may require advanced treatment for sites that have a record of noncompliance with the City's construction BMP requirements, regardless of if they meet the above criteria.

Treatment effluent water quality shall meet or exceed the water quality objectives for turbidity, pH, toxicity, and any other parameter deemed necessary by the City as listed in the *Water Quality Control Plan for the San Diego Basin (2007)* for the appropriate hydrologic unit.

For projects where advanced treatment is required, the applicant must submit the design, operations and maintenance schedule, monitoring plan, and certification of training of staff to the satisfaction of the City.

3.0 MUNICIPAL

3.1 BMP REQUIREMENTS FOR ALL DISCHARGERS

3.1.1 NON-STORM WATER DISCHARGES

Non-storm water discharges refer to water flows that are not associated with storm events (i.e. the product of precipitation). The following categories of non-storm water discharges are exempt from discharge prohibitions established by the City's ordinance, but BMPs must maintained to keep prevent these discharges from being a source of or transporting pollutants to the City's storm water conveyance system. Such discharges are listed below:

- Discharges from potable water sources other than water main breaks;
- Diverted stream flows (provided required permits are obtained);
- Flows from riparian habitats and wetlands;
- Foundation drains (not including active groundwater dewatering systems);
- Individual residential washing of vehicles;
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- Rising groundwater;
- Swimming pool discharges (if dechlorinated to less than one PPM chlorine);
- Uncontaminated groundwater infiltration to storm drains;
- Uncontaminated pumped groundwater;
- Water from crawl space pumps; and
- Water from footing drains (not including active groundwater dewatering systems).
- Air conditioning condensate
- Flows from emergency fire fighting activities
- Springs
- Water line flushing

3.1.2 BMP REQUIREMENTS APPLICABLE TO ALL DISCHARGERS

Good Housekeeping BMPs

Good housekeeping consists of practices implemented to prevent pollutants from being carried in either non-storm water dischargers or with storm water during a storm event and include the practices below. These practices should be implemented by all dischargers, when applicable:

- Report prohibited non-storm water discharges to the City's storm water hotline (619) 336-4389.

    - Prohibited non-storm water discharges include industrial and commercial businesses hosing down their sites or washing vehicles or equipment where water reaches the City's storm water conveyance system, or anyone dumping solid or liquid waste directly into or where it may reach the City's storm water conveyance system.

- Regularly clean and maintain outdoor areas
    - Eliminate the accumulation of pollutants (dirt, surplus materials, spilled or dropped substances, litter, and debris) that collect in areas that can be carried in runoff to the storm water conveyance system.
    - Keep dumpster, trashcan, and recycling bin lids closed to prevent the wind from carrying trash out of the receptacles and to prevent wind, rain, and scavengers from transporting pollutants to the storm water conveyance system.

- Choose dry cleaning methods
    - Eliminate hosing down the site unless all wash water is contained and disposed of to a pervious area, like a lawn, or the sanitary sewer system. Note that some kinds of wash water (i.e. containing significant amounts of pollutants) may not be allowed to be disposed of to a pervious area. Additionally, sewer permits may be necessary for disposing of significant amounts of wash water to the sewer system.
    - Sweeping of paved areas is a dry cleaning method that helps prevent trash, debris, and particulate matter such as dirt from accumulating on paved surfaces and being carried to the storm water conveyance system during a rain event.

- Reduce the use of toxic materials
    - Substitute non-toxic or less-toxic cleaning materials and solvents, use non-caustic and phosphate-free detergents, water-based degreasers, non-chlorinated solvents, when possible.

- Store materials in a manner where they do not contact storm water
    - Move into a building or provide a cover, berm, or similar structure to prevent storm water from contacting materials stored outdoors.

Erosion Control

- Remove or secure any significant accumulations of eroded soils from slopes, or other exposed areas. Such areas may be secured through the use of vegetation, geotextiles, erosion control blankets, etc.

Illegal Connections and Discharges

- Illegal connections to the storm water conveyance system, including, but not limited to sinks and toilets plumbed to the storm water conveyance system, and other systems that convey prohibited discharges to the storm water conveyance system must be eliminated (even if the connection was established pursuant to a valid permit and was legal at the time it was constructed).

- Illegal discharge practices must be eliminated. If a discharge is not include on the list of allowed discharges discussed in section 2.1.1, and is not water resulting from a storm event, it is most likely an illegal discharge.

3.2 BMP Requirements For Municipal Facilities

Key BMPs generally applicable to municipal facilities and activities include the following:

- Reducing the exposure of pollutants to storm water and non-storm water discharges. This is often done through
  - Covering the pollutants and/or
  - Keeping pollutants away from typical flow paths of water
- Good housekeeping: generally keeping work and storage areas clean and well organized
- Prompt, proper cleanup of spills
- Preventing illegal discharges, such as vehicle wash water

The City utilizes the California Storm Water Quality Association (CASQA) Municipal Handbook to guide its implementation of applicable BMPs for specific municipal areas and activities. Table 3-1 at the end of this section provides a checklist that includes which fact sheets in the CASQA Municipal Handbook are used as a source of BMPs based on municipal area and/or activity. The CASQA fact sheets can be accessed at www.cabmphandbooks.com. If it is not feasible to implement the required BMPs at specific sites and/or during specific activities, the City implements other equivalent BMPs as necessary to comply with the Municipal Permit. More stringent BMP requirements may need to be applied where necessary to reduce discharges of pollutants to sensitive water bodies and/or comply with total maximum daily load (TMDL) regulations.

The City implements more specific BMPs for landscaping activities, activities related to fire fighting, and special events. Those BMPs are described in the following subsections. This handbook does not directly discuss the City's methods of BMPs for street sweeping, sanitary sewer maintenance, and MS4 maintenance, which are routine maintenance operations with established protocols.

3.2.1 Landscaping Activities

The City has a comprehensive program aimed at preventing or reducing pesticides, herbicides, and fertilizers from entering the storm water system and causing direct or indirect harm on non-target flora and fauna and receiving water. The following BMPs should be implemented during all landscaping activities, when applicable.

- City personnel who participate in the application of pesticides/herbicides should be trained and licensed (Qualified Applicator License) and follow guidelines set by the California Department of Pesticide Regulations and the County Agricultural Commission. Every two years, Qualified Applicator

Certificate holders must show proof that they have secured a minimum of 20 hours of continuing education.

- Pesticide application has not been administered in the past several years by City personnel. Diseased plants should be rinsed off with water, pulled out and replaced, or treated with systemic pesticides in fertilizers that eliminate pests. Special fertilizers for rose bushes contain pesticide products. These should be kept in limited quantities to minimize the storage of these products.
- Use less persistent herbicides such as glyphosphate products rather than organophosphate herbicides.
- Manually pull weeds, mow weeds, mulch, and disk and till twice a year to minimize the amount of herbicides used.
- All herbicides should be stored in fire safe, self-closing, weatherproof metal cabinets. Material Safety Data Sheets (MSDS) and spill kits are kept in the storage area.
- Mixing of herbicides, if necessary, should be conducted on site to minimize areas of exposure.
- Minimizes the use of fertilizers and use fertilizing with a slow-release fertilizer on a less frequent basis (this allows more of the product to be accepted with less leaching; the reduced frequency creates less chance for the product to exit the target area)
- Fertilizer stock should be purchased as needed and quantities should be used up within a reasonable amount of time so that it is not necessary to stockpile the material
- All fertilizers and green landscape debris should be kept within the target areas
- Pesticides, herbicides, and fertilizers should be applied during or directly prior to storm events.
- Use drought tolerant plants and native vegetation for landscaping new areas
- Recycle all hardwood (except for palm trees) to use as mulch in landscaping areas.
- In place of vegetation for erosion control, use mulching in select areas. Mulching not lonely serves as an effective erosion control measure, but it does not require irrigation, herbicides, pesticides, or fertilizers.
- Aerate the soil and apply soil treatments with gypsum to increase the absorptive capacity of the soil and reduce runoff
- Inspect irrigation systems so that necessary repairs can be made immediately
- Adjust timers for irrigation systems with multiple start times to allow water time to percolate into the soil and prevent runoff
- Ensure irrigation schedules are seasonal; the winter schedule and amount of water usage should be half of the summer schedule
- Use low angle nozzles on sprinklers in order to prevent drift of water

- Replace old sprinklers with low volume heads with in-line checks to prevent excessive runoff if the sprinkler head is broken
- Provide formal workshops and training for City personnel who store and handle pesticides, herbicides, and fertilizers
- Provide bi-weekly refresher sessions regarding proper storage and handling of pesticides, herbicides, and fertilizers.

3.2.2 FIRE STATIONS

BMPs should be implemented when conducting the following activities:

Regular Maintenance of Fire and Emergency Vehicles and Equipment

- Vehicles and equipment should be cleaned where runoff is directed either to the sanitary sewer system or to a drain with an oil/water separator system
- Vehicles and equipment should be cleaned where runoff will pond and evaporate and/or where runoff will filter through landscaped areas
- Used-oil, hydraulic fluids, and antifreeze should be stored in containers for recycling or will be disposed as hazardous waste
- Spill kits should be available to promptly cleanup and contain leaking or spilled vehicle fluids
- Use of soaps, cleaners, and detergents should be minimized, and general cleaning solutions will be disposed of into the sanitary sewer system
- Caustics, flammables, and solvents should be contained and disposed of properly as hazardous waste

Training Exercises

- Water used in training exercises should be directed to landscaped areas whenever possible, and runoff from the training exercises should be allowed to discharge to the MS4.
- Live fire training activities should be pre-planned to allow integration of barriers to off-site runoff that could contribute to non-storm water discharges

Facilities Maintenance

- Impervious areas such as apparatus floors, maintenance bays, driveways, patios, and walkways should be swept to remove debris. Debris should be placed in the trash. Interior floors should be mopped as necessary, and the wastewater discharged into the sanitary sewer system or onto landscaped areas
- Landscaped areas should be maintained as required to reduce introduction of leaves and other landscape waste into the MS4
- Irrigation systems should be monitored and maintained as required to reduce irrigation water from going off-site
- Spills should be cleaned up using spill kits provided at the work site, and disposal of spilled material should be in accordance with applicable regulations
- Spills that require a cleanup beyond the ability of the on-site employees should be reported to the City Public Works Department for assistance with appropriate resources

- Maintenance and repair of structures should be conducted using methods that do not contribute pollutants to the MS4
- General non-hazardous cleaning solutions should be disposed of in a utility sink that drains into the sanitary sewer system

Post-Emergency Rehabilitation of Response Equipment
Tools, fire hoses, ladders, and other equipment utilized at the scene of an emergency should be restored to a response-ready state in a manner that does not delay the ability of the apparatus to be available for another emergency response. The use of water that could contribute to storm water discharges may be used unless another practical and immediately available method is identified.

3.2.3 SPECIAL EVENTS

The City implements the following BMPs during and/or after special events, *where applicable*:

- Proper management of trash and litter including extra trash receptacles situated throughout the event site and emptied throughout the day
- Recycling containers for plastic, cardboard, glass, and aluminum, should be placed near trash receptacles throughout the site
- Events with more than 300 attendees require the use of a dumpster
- Portable toilets must have secondary containment
- Clean-up throughout and at the end of each event (or at the end of each day, depending on the length of the event) by removing trash and power washing paved areas, if necessary
- City personnel should be immediately available to resolve any storm water-related problems that may arise
- Temporary screens should be placed on catch basins and storm drain inlets
- Temporary fencing should be installed to prevent windblown trash from entering adjacent water bodies and MS4 channels
- Catch basins should be cleaned following the special event, as needed
- Perform street sweeping after the event, if necessary

TABLE 3-1

MINIMUM BMP SELECTION CHECKLIST FOR MUNICIPAL AREAS/ACTIVITIES

Required Minimum BMPs as discussed in the CASQA Municipal BMP Handbook

Facility Type	SC-10 Non-Stormwater Discharges	SC-11 Spill Prevention, Control & Cleanup	SC-20 Vehicle and Equipment Fueling	SC-21 Vehicle and Equipment Cleaning	SC-22 Vehicle and Equipment Repair	SC-30 Outdoor Loading/Unloading	SC-31 Outdoor Container Storage	SC-32 Outdoor Equipment Maintenance	SC-33 Outdoor Storage of Raw Materials	SC-34 Waste Handling & Disposal	SC-41 Building & Grounds Maintenance	SC-43 Parking/Storage Area Maintenance	SC-50 Over Water Activities	SC-60 Housekeeping Practices	SC-61 Safer Alternative Products	SC-70 Road and Street Maintenance	SC-71 Plaza and Sidewalk Cleaning	SC-72 Fountain & Pool Maintenance	SC-73 Landscape Maintenance	SC-74 Drainage System Maintenance	SC-75 Waste Handling and Disposal	SC-76 Water & Sewer Utility Maintenance
Fire Stations	X	X		X						X	X	X		X	X							
Mobile Municipal Activities, Including Power Washing																	X	X	X			
MS4																				X		
Other Fixed Facilities	X	X								X	X	X		X					X			
Parks, Recreational Facilities, and Other Landscaped Areas	X	X					X		X	X	X	X		X	X							
Public Works Facilities	X	X	X	X	X	X	X	X	X	X	X	X		X	X							
Roads, Streets, Highways, and Parking Facilities		X										X				X						
Sanitary Sewer System																						X
Special Events	X	X								X				X								

Please note that this checklist is designed to select minimum BMPs for particular facility and/or activity categories. If a municipal facility is conducting activities associated with a number of different categories, the City requires minimum BMPs for each category to be implemented. The City may also require the implementation of additional BMPs not included on CASQA municipal fact sheets depending on compliance history, site conditions, or other applicable factors.

4.0 INDUSTRIAL AND COMMERCIAL

4.1 BMP REQUIREMENTS FOR ALL DISCHARGERS

4.1.1 NON-STORM WATER DISCHARGES

Non-storm water discharges refer to water flows that are not associated with storm events (i.e. the product of precipitation). The following categories of non-storm water discharges are exempt from discharge prohibitions established by the City's ordinance, but BMPs must maintained to keep prevent these discharges from being a source of or transporting pollutants to the City's storm water conveyance system. Such discharges are listed below:

- Discharges from potable water sources other than water main breaks;
- Diverted stream flows (provided required permits are obtained);
- Flows from riparian habitats and wetlands;
- Foundation drains (not including active groundwater dewatering systems);
- Individual residential washing of vehicles;
- Irrigation water including recycled water used for irrigation;
- Landscape irrigation;
- Lawn watering;
- Rising groundwater;
- Swimming pool discharges (if dechlorinated to less than one PPM chlorine);
- Uncontaminated groundwater infiltration to storm drains;
- Uncontaminated pumped groundwater;
- Water from crawl space pumps; and
- Water from footing drains (not including active groundwater dewatering systems).
- Air conditioning condensate
- Flows from emergency fire fighting activities
- Springs
- Water line flushing

4.1.2 BMP REQUIREMENTS APPLICABLE TO ALL DISCHARGERS

Good Housekeeping BMPs

Good housekeeping consists of practices implemented to prevent pollutants from being carried in either non-storm water dischargers or with storm water during a storm event and include the practices below. These practices should be implemented by all dischargers, when applicable:

- Report prohibited non-storm water discharges to the City's storm water hotline (619) 336-4389.

    - Prohibited non-storm water discharges include industrial and commercial businesses hosing down their sites or washing vehicles or equipment where water reaches the City's storm water conveyance system, or anyone dumping solid or liquid waste directly into or where it may reach the City's storm water conveyance system.

- Regularly clean and maintain outdoor areas
    - Eliminate the accumulation of pollutants (dirt, surplus materials, spilled or dropped substances, litter, and debris) that collect in areas that can be carried in runoff to the storm water conveyance system.
    - Keep dumpster, trashcan, and recycling bin lids closed to prevent the wind from carrying trash out of the receptacles and to prevent wind, rain, and scavengers from transporting pollutants to the storm water conveyance system.

- Choose dry cleaning methods
    - Eliminate hosing down the site unless all wash water is contained and disposed of to a pervious area, like a lawn, or the sanitary sewer system. Note that some kinds of wash water (i.e. containing significant amounts of pollutants) may not be allowed to be disposed of to a pervious area. Additionally, sewer permits may be necessary for disposing of significant amounts of wash water to the sewer system.
    - Sweeping of paved areas is a dry cleaning method that helps prevent trash, debris, and particulate matter such as dirt from accumulating on paved surfaces and being carried to the storm water conveyance system during a rain event.

- Reduce the use of toxic materials
    - Substitute non-toxic or less-toxic cleaning materials and solvents, use non-caustic and phosphate-free detergents, water-based degreasers, non-chlorinated solvents, when possible.

- Store materials in a manner where they do not contact storm water
    - Move into a building or provide a cover, berm, or similar structure to prevent storm water from contacting materials stored outdoors.

Erosion Control

- Remove or secure any significant accumulations of eroded soils from slopes, or other exposed areas. Such areas may be secured through the use of vegetation, geotextiles, erosion control blankets, etc.

Illegal Connections and Discharges

- Illegal connections to the storm water conveyance system, including, but not limited to sinks and toilets plumbed to the storm water conveyance system, and other systems that convey prohibited discharges to the storm water conveyance system must be eliminated (even if the connection was established pursuant to a valid permit and was legal at the time it was constructed).

- Illegal discharge practices must be eliminated. If a discharge is not include on the list of allowed discharges discussed in section 2.1.1, and is not water resulting from a storm event, it is most likely an illegal discharge.

4.2 BMP Requirements For Industrial And Commercial Sites

Key BMPs generally applicable to industrial and commercial facilities and activities include the following:

- Reducing the exposure of pollutants to storm water and non-storm water discharges. This is often done through
  - Covering the pollutants and/or
  - Keeping pollutants away from typical flow paths of water
- Good housekeeping: generally keeping work and storage areas clean and well organized.
- Prompt, proper cleanup of spills
- Preventing illegal discharges, such as vehicle wash water.

4.2.1 Pollution Prevention

The City requires incorporation of such strategies into the standard operating procedures of all industrial and commercial facilities, whether a large or small industrial facility, a corporate chain store, a franchise, or an independent or family run shop. The following pollution prevention methods shall be considered and implemented to the MEP, where applicable:

- Reduce quantity of toxic materials used or substitute less-toxic materials
- Use minimal cleaning water to decrease wastewater generation
- Display pollution prevention methods prominently to remind or instruct employees and customers
- Implement a spill response plan
- Segregate and recycle wastes
- Provide a schedule of preventive maintenance procedures
- Reduce waste through more efficient production processes
- Recycle wastes as part of the production process (most preferred), off site or on site (least preferred)
- Treat wastes on site to decrease volume and/or toxicity
- Dispose of wastes properly
- Continually train employees as needed

4.2.2 General and Activity Specific BMPs

In addition to the pollution prevention BMPs described above, the City has also established a set of minimum BMPs based on the CASQ California Stormwater BMP Handbook – Industrial & Commercial (CASQA, 2003) for all industrial and commercial

sites. Businesses are required to use an effective combination of general BMPs and activity-specific BMPs. General BMPs and activity-specific BMPs are required where applicable and are briefly listed below. The relevant CASQA BMP fact sheet reference is given in parentheses after each listing; the BMP fact sheets are available online at www.cabmphandbooks.com. In some cases the City does not agree with some of the specific recommended BMP options listed in the CASQA fact sheets. Those exceptions are listed later in this section.

Note that more stringent BMP requirements may need to be applied where necessary to reduce discharges of pollutants to sensitive water bodies and/or comply with total maximum daily load (TMDL) regulations. The City also reserves the right to require the development of Storm Water Pollution Prevention Plans (SWPPP) and/or storm water monitoring if deemed necessary by City inspectors.

- **General BMPs**
  - Non-Storm Water Discharge Control (SC-10)
  - Spill Prevention, Control/Cleanup (SC-11)
  - Waste Handling and Disposal (SC-34)
  - Sediment/Erosion Control (SC-40)
  - Building/Grounds Maintenance (SC-41)
  - Parking Area Maintenance (SC-43)
  - Drainage System Maintenance (SC-44)
  - Employee Training
    - As appropriate to their positions, staff must be trained to avoid prohibited discharges.
    - Staff must be trained in proper implementation of the BMPs applicable to the activities they regularly conduct.

- **Activity-Specific BMPs**
  Appropriate BMPs depend on the type of activities, pollutants and potential source of pollutants. BMPs requirements for the following activities and areas, which are relatively common at industrial and commercial sites, follow the CASQA BMP noted in parentheses after each activity.

  - Vehicle/Equipment Fueling (SC-20)
  - Vehicle/Equipment Cleaning (SC-21)
  - Vehicle/Equipment Repair (SC-22)
  - Outdoor Loading/Unloading (SC-30)
  - Outdoor Liquid Container Storage (SC-31)
  - Outdoor Equipment Operations (SC-32)
  - Outdoor Storage of Raw Materials (SC-33)

In addition to the minimum BMPs listed above, the City may require additional BMPs based on specific site conditions observed during an inspection. The City also may require the implementation of treatment control BMPs, including but not limited to the following:

- Infiltration Trench (TC-10)
- Infiltration Basin (TC-11)
- Retention/Irrigation (TC-12)
- Wet Pond (TC-20)
- Constructed Wetland (TC-21)
- Extended Detention Basin (TC-22)
- Vegetated Swale (TC-30)
- Vegetated Buffer Strip (TC-31)
- Bioretention (TC-32)
- Media Filter (TC-40)
- Water Quality Inlet (TC-50)
- Multiple Systems (TC-60)
- Wetland (MP-20)
- Media Filter (MP-40)
- Wet Vault (MP-50)
- Vortex Separator (MP-51)
- Drain Inlet (MP-52)

4.2.3 CITY EXCEPTIONS TO CASQA FACT SHEETS

Section 3 of the CASQA Industrial and Commercial Storm Water BMP Handbook consists of the following fact sheets:

SC-10	Non-storm water discharges
SC-11	Spill Prevention, Control, and Cleanup
SC-20	Vehicle and Equipment Fueling
SC-21	Vehicle and Equipment Cleaning
SC-22	Vehicle and Equipment Repair
SC-30	Outdoor Loading/Unloading
SC-31	Outdoor Liquid Container Storage
SC-32	Outdoor Equipment Operations
SC-33	Outdoor Storage of Raw Materials
SC-34	Waste Handling and Disposal
SC-35	Safer Alternative Products
SC-40	Contaminated or Erodible Areas
SC-41	Building and Grounds Maintenance
SC-42	Building Repair and Construction
SC-43	Parking/Storage Area Maintenance
SC-44	Drainage System Maintenance
--	Food Service Facilities

The City has noted some exceptions to some BMPs listed on some of the aforementioned CASQA Industrial and Commercial Fact Sheets, which are discussed below.

Please note that although CASQA fact sheets state that listed BMPs are "suggested protocols," the City requires the implementation of such protocols as minimum BMPs, when applicable to the business.

There are no fact sheets specific to disposal of hazardous waste included in the CASQA Industrial and Commercial Handbook. Industrial and commercial businesses must follow appropriate waste disposal BMPs (SC-34) and applicable laws and regulations when disposing of hazardous waste.

CASQA fact sheet SC-11 states that industrial and commercial businesses should develop and regularly update a spill prevention control and countermeasure (SPCC) Plan. A formal SPCC document is not required, but is encouraged. However, other BMPs listed on SC-11 must be implemented when preventing and responding to spills.

SC-22, Vehicle and Equipment and Repair, states, "Incoming vehicles [should be] checked for leaking oil and fluids. Do not allow leaking vehicles or equipment on site." Due to the nature of vehicle equipment and repair facilities, leaking vehicles or equipment may be allowed on site. BMPs must be implemented to prevent vehicle and equipment fluids from contacting, or potentially contacting, storm water.

SC-43, Parking/Storage Area Maintenance, states, "Follow the procedures below when cleaning oily deposits: use a screen or filter fabric over inlet, then wash surfaces." Non-storm water discharges of this nature, even if filtered, are not allowed to enter the storm water conveyance system. Water must be contained, collected, and disposed of properly.

SC-41 - Building and Grounds Maintenance, states (in regards to pressure washing), "If soaps or detergents are not used, and the surrounding area is paved, waste runoff does not have to be collected but must be screened. Pressure washers must use filter fabrics or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff." As previously mentioned, non-storm water discharges of this nature, even if filtered, are not allowed to enter the storm water conveyance system. Water must be contained, collected, and disposed of properly.

Note that the City does not require the use of treatment control BMPs as minimum BMPs for existing industrial and commercial facilities. Treatment control BMPs may be necessary at industrial and commercial facilities to reduce pollutants to the MEP. Treatment control BMPs are required for all high priority development projects as required by the Municipal Permit and the City's SUSMP ordinance. Any business implementing treatment control BMPs should be aware of regulations that regulate the removal of silt, sediment, and/or vegetation from naturally lined ponds and detention basins.

5.0 RESIDENTIAL

5.1 BMP REQUIREMENTS FOR ALL DISCHARGERS

5.1.1 NON-STORM WATER DISCHARGES

Non-storm water discharges refer to water flows that are not associated with storm events (i.e. the product of precipitation). The following categories of non-storm water discharges are exempt from discharge prohibitions established by the City's ordinance, but BMPs must maintained to keep prevent these discharges from being a source of or transporting pollutants to the City's storm water conveyance system. Such discharges are listed below:

- Discharges from potable water sources other than water main breaks;
- Diverted stream flows (provided required permits are obtained);
- Flows from riparian habitats and wetlands;
- Foundation drains (not including active groundwater dewatering systems);
- Individual residential washing of vehicles;
- Irrigation water including recycled water used for irrigation;
- Landscape irrigation;
- Lawn watering;
- Rising groundwater;
- Swimming pool discharges (if dechlorinated to less than one PPM chlorine);
- Uncontaminated groundwater infiltration to storm drains;
- Uncontaminated pumped groundwater;
- Water from crawl space pumps; and
- Water from footing drains (not including active groundwater dewatering systems).
- Air conditioning condensate
- Flows from emergency fire fighting activities
- Springs
- Water line flushing

5.1.2 BMP REQUIREMENTS APPLICABLE TO ALL DISCHARGERS

Good Housekeeping BMPs

Good housekeeping consists of practices implemented to prevent pollutants from being carried in either non-storm water dischargers or with storm water during a storm event and include the practices below. These practices should be implemented by all dischargers, when applicable:

- Report prohibited non-storm water discharges to the City's storm water hotline (619) 336-4389.

    - Prohibited non-storm water discharges include industrial and commercial businesses hosing down their sites or washing vehicles or equipment where water reaches the City's storm water conveyance system, or anyone dumping solid or liquid waste directly into or where it may reach the City's storm water conveyance system.

- Regularly clean and maintain outdoor areas
    - Eliminate the accumulation of pollutants (dirt, surplus materials, spilled or dropped substances, litter, and debris) that collect in areas that can be carried in runoff to the storm water conveyance system.
    - Keep dumpster, trashcan, and recycling bin lids closed to prevent the wind from carrying trash out of the receptacles and to prevent wind, rain, and scavengers from transporting pollutants to the storm water conveyance system.

- Choose dry cleaning methods
    - Eliminate hosing down the site unless all wash water is contained and disposed of to a pervious area, like a lawn, or the sanitary sewer system. Note that some kinds of wash water (i.e. containing significant amounts of pollutants) may not be allowed to be disposed of to a pervious area. Additionally, sewer permits may be necessary for disposing of significant amounts of wash water to the sewer system.
    - Sweeping of paved areas is a dry cleaning method that helps prevent trash, debris, and particulate matter such as dirt from accumulating on paved surfaces and being carried to the storm water conveyance system during a rain event.

- Reduce the use of toxic materials
    - Substitute non-toxic or less-toxic cleaning materials and solvents, use non-caustic and phosphate-free detergents, water-based degreasers, non-chlorinated solvents, when possible.

- Store materials in a manner where they do not contact storm water
    - Move into a building or provide a cover, berm, or similar structure to prevent storm water from contacting materials stored outdoors.

Erosion Control

- Remove or secure any significant accumulations of eroded soils from slopes, or other exposed areas. Such areas may be secured through the use of vegetation, geotextiles, erosion control blankets, etc.

Illegal Connections and Discharges

- Illegal connections to the storm water conveyance system, including, but not limited to sinks and toilets plumbed to the storm water conveyance system, and other systems that convey prohibited discharges to the storm water conveyance system must be eliminated (even if the connection was established pursuant to a valid permit and was legal at the time it was constructed).

- Illegal discharge practices must be eliminated. If a discharge is not include on the list of allowed discharges discussed in section 2.1.1, and is not water resulting from a storm event, it is most likely an illegal discharge.

5.2 BMP REQUIREMENTS FOR ALL RESIDENTIAL SITES

Residents are responsible for complying with general BMP requirements to which all parties in the City are subject, including illegal discharge prohibitions. Specific BMPs applicable to activities of City residents are listed below.

- **Automobile Repair and Maintenance**
  Residents are encouraged to:
  - Use routine preventive maintenance practices to prevent vehicle leaks and spills from entering urban runoff
  - Reduce vehicle use by:
    - Changing driving habits
    - Carpooling
    - Increasing use of public transportation
    - Biking or walking for short trips
  - Make timely vehicle inspections and repairs
  - Leaks and Spills
    Residents are required to
    Prevent leaks and spills from contacting urban runoff by using the following BMPs or their equivalent:
    - Use drip pans, plastic sheeting, or other materials to contain spills
    - Work indoors or under shelter
    - If working outdoors, do not conduct maintenance during rain events
    - Clean up leaks and spills when they occur
    - Clean tools and parts only in contained areas
  - Materials and Waste Management
    Residents are required to:
    Properly manage and dispose of automotive wastes and materials by using the following BMPs or their equivalent:
    - Properly and lawfully dispose of all wastes
    - Recycle or properly dispose of oil and antifreeze
    - Store materials and wastes indoors or under cover
    - Use secure and watertight containers when storing materials and wastes outside
  - Restrictions on Activity
    Residents are encouraged to:
  - Use commercial repair and maintenance facilities to avoid the potential for pollution in residential areas.

- **Automobile Washing**
  - Residents are encouraged to do all of the following activities, except where it is stated "required":
    Use preventive practices to keep vehicles clean (park in garage, under cover, etc.)
  - Reduction of Wash Water
    - Dry cleaning methods to avoid the generation of wash and rinse water
    - Turn off the water when not in use or to use a controllable spray nozzle
    - Contain, capture, or divert wash water from the conveyance system
    - Wash vehicles over pervious surfaces such as lawns or gravel areas
    - Establish neighborhood wash areas where wash water and contaminants can be properly managed
  - Materials and Waste Management
    - Use minimal amounts of soap, detergents, and other cleaners when washing vehicles
    - Residents are required to properly dispose of soapy water or bucket rinse water into the sanitary sewer or soak into the lawn
    - Launder rags and towels or dispose of them in the trash
    - Use dry methods to degrease or clean especially dirty parts prior to wet washing and rinsing. For example, grease or brake dust can be removed using towels.
  - Restrictions on Activity
    - Use commercial wash facilities to avoid the potential for pollution in residential neighborhoods (e.g., during a complaint investigation).
- **Automobile Parking**
  - Minimize leaks and spills in driveways and parking areas by repairing oil, water, and fuel leaks in vehicles
  - Use routine preventative maintenance practices and to make timely vehicle repairs
  - Proper design and construction of parking areas in residences during major redevelopment is required. Further details are given in the Development Planning Component (Section 4 of this document).
  - Clean parking areas using dry methods, particularly where sediments and/or debris has accumulated
- **Garden Care Activities and Product Use**
    Residents are encouraged to do all of the following activities, except where it is stated "required":
  - Leaks and Spills

        - Clean up spills of gardening chemicals, fertilizers, and soils immediately
        - Return spilled materials to the container for future use or to properly dispose if them
    - Materials and Waste Management
        - Use safe substitutes and alternative methods for garden use including
            - IPM techniques
            - Use of native plants and drought-tolerant species to reduce water use and the amount of green waste produced
            - Planting techniques to attract beneficial insects
            - Use of biological controls
            - Composting, vermiculture, and yard waste recycling
        - Employ practical purchasing for pesticides and fertilizers:
    - Use minimal amounts of pesticides and fertilizers, to help prevent unnecessary pollutant runoff to the MS4
    - Always read label instructions and follow the instructions for garden care products
        - Conserve water through the use of xeriscape gardening, drip irrigation, soaker hoses, and micro-spray systems
        - Repair or adjust irrigation systems that allow excessive runoff
        - Prevent erosion by planting and mulching hillsides and slopes
        - Store lawn care products in closed, labeled containers and in covered areas
        - Residents are discouraged from using materials during windy or rainy days
        - Effectively cover stockpiles of soil, compost or fertilizers with plastic tarps or equivalent methods to prevent dispersal by wind or rain
        - Use dry sweeping techniques for clean up
        - Recycle lawn clippings and greenery waste through local programs
        - Residents are required to properly dispose of HHW. The City maintains a HHW disposal facility, which is described later in this section.
        - Not hose off paved surfaces to the street or gutter
    - Restrictions on Activities
        - Residents are prohibited from disposing of hazardous waste into the trash, landfill, or storm drain
- **Home Care and Maintenance**
    - Leaks and Spills

      Residents are required to
        - Clean up hazardous materials spills immediately

        - Use proper techniques for spill cleanup and waste disposal
    - Materials and Waste Management

      Residents are encouraged to do all of the following activities, except where it is stated "required":
        - Use practical purchasing for home cleaning and maintenance products to reduce waste. For example, purchase only what is needed for specific projects.
        - Use safe substitutes for home cleaning and maintenance
        - Read and abide by product label instructions
        - Use water based paints
        - Store HHW in closed labeled containers in a covered area
        - Recycle latex paint through community programs
        - Residents are required to properly dispose of unwanted HHW
        - Recycle unused, unwanted products
        - Recycle unwanted appliances and household equipment
    - Restrictions
        - Residents are prohibited from disposing of wash waters (carpet cleaning, mop water, paint wash-up, etc.) to the street, gutter, or storm drain
        - Residents are required to ensure swimming pool water is clear, de-chlorinated, and free of chemicals, sediments, or other pollutants before discharging to the storm drain
        - Residents are prohibited from washing pool filter where discharges may enter storm drainage systems
- **Disposal of Pet Waste**
    - Waste Management/ Disposal
        - Pet owners are required to clean up after their pets in the public right of way and on private property not belonging to them. Many Home Owners Associations (HOA) provide pet waste bags and have posted signs to encourage proper waste disposal.
        - Residents are required to dispose of pet waste to the toilet trash, or other acceptable means
        - Residents are encouraged to clean up pet waste on their private property if pets are allowed to defecate outside
    - Pet Management
        - Residents are prohibited from allowing their pets to run free in residential neighborhoods
- **Disposal of Trash**
    - Residents are prohibited from littering
    - Residents are prohibited from dumping trash, including large appliances, furniture, hazardous waste, and other unwanted items, into the MS4
    - Residents are encouraged to:

- Dispose of trash in provided trash cans or shared dumpsters and ensure that trash bags are not leaking prior to disposal
- Recycle waste products where possible
- Compost food scraps and green waste where possible
- Pick up, sweep up, and mop up trash and spills surrounding the trash can/dumpster, using minimal water and cleaning products, if necessary. No discharge to the MS4 is allowable during this process.
- Keep trash can and/or dumpster lids closed